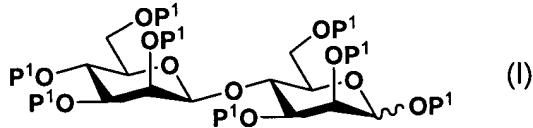


AMENDMENTS TO THE CLAIMS

1. (Cancelled)

2. (Currently amended) ~~The A~~ method for preparing a trisaccharide ($\text{Man}\beta 1 \rightarrow 4\text{GlcN}\beta 1 \rightarrow 4\text{GlcN}$) of ~~the-a~~ reducing terminal in ~~the-a~~ core sugar chain structure of an asparagine-linked glycoprotein, of claim 1, further comprising each of

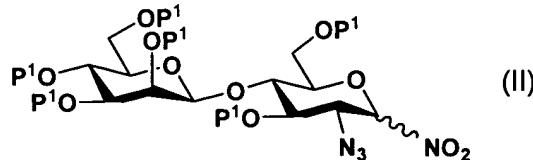
(1) a process of preparing a mannose disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) of the formula (I)



wherein P^1 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and the wavy line means that $-\text{OP}^1$ is linked at an axial or equatorial position, or mixture of both,
by hydrolyzing a polysaccharide having mannose β -1,4-bonds and protecting OH groups of the resulting hydrolysate,

(2) a process of preparing a glycal compound, in which mannose of ~~the-a~~ reducing terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$), and

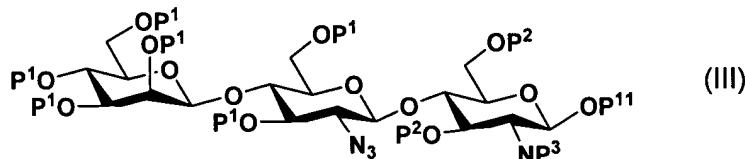
(3) a process of preparing an azide disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) shown with formula (II) in which ~~the-a~~ 2-azide group of mannose in ~~the-a~~ reducing terminal is linked at ~~the-an~~ equatorial position;



wherein P^1 is the same as described above, the wavy line means that $-\text{NO}_2$ is linked at an axial or equatorial position, or mixture of both,
by azidenitration reaction of the glycal compound above.

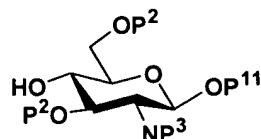
3. (Currently amended) The method for preparing a trisaccharide ($\text{Man}\beta 1\rightarrow 4\text{GlcN}\beta 1\rightarrow 4\text{GlcN}$) of the a reducing terminal in the a core sugar chain structure of an asparagine-linked glycoprotein of claim 2, further comprising

- (4) a process of substituting the nitro group of the azide disaccharide compound (a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$) with a leaving group selected from the group consisting of fluorine atom, chlorine atom, trihaloacetoimide, pentenyl, alkylthio and arylthio, and
- (5) a process of preparing a trisaccharide compound (a type of $\text{Man}\beta 1\rightarrow 4\text{GlcNP}^1\beta 1\rightarrow 4\text{GlcNP}^2$) shown with the formula (III);



wherein P^1 , P^2 , P^3 and P^{11} are is an OH- protecting group, as described above, P^2 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsillyl and triethyl silyl, P^3 is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^{11} is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsillyl and triethyl silyl, the same above,

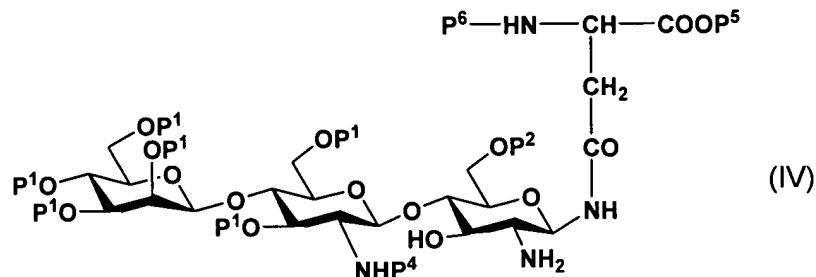
by a reaction of the product having the leaving group with amino-protected glucopyranoside shown with the formula;



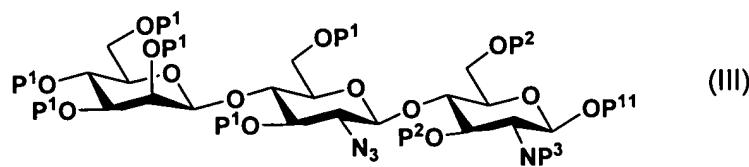
wherein P^2 , P^3 and P^{11} are the same as described above, is an OH-protecting group, P^3 is an amino-protecting group and P^{11} is an OH-protecting group.

4. (Currently amended) The method for preparing a trisaccharide
(Man β 1→4GlcN β 1→4GlcN) of the α reducing terminal in the α core sugar chain
structure of an asparagine-linked glycoprotein of claim 3, further comprising

(6) a process of preparing an asparagine-linked trisaccharide
(Man β 1→4GlcNP $^1\beta$ 1→4GlcNP 2) compound shown with the formula (IV);



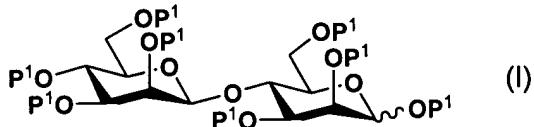
wherein P 1 and P 2 are independently OH-protecting groups, as described above the same
above, P 4 and P 6 are independently amino-protecting groups selected from the group
consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and
benzyl, and P 5 is a carboxyl-protecting group which is t-Bu,
by deprotecting the P 11 group of the compound (III),



wherein P 1 , P 2 and P 11 are independently OH-protecting groups, as described above, and
P 3 is an amino-protecting group, as described above,
reducing the azide group to an amino group, protecting the amino group with an acetyl
group, forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a
reducing terminal, and coupling with a protected asparagine derivative after introducing
a -N=C=S group at the reducing terminal, coupling of the reducing terminal of the
trisaccharide compound above with the protected asparagine derivative.

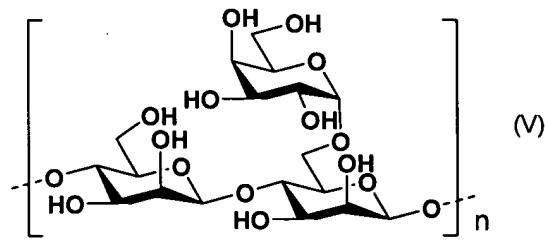
5. (Currently amended) A method for preparing a mannose disaccharide compound

(a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$) shown with the formula (I);



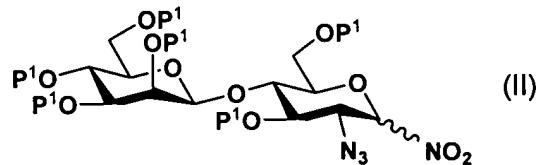
wherein P^1 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and the wavy line means that $-\text{OP}^1$ is linked at an axial or equatorial position, or mixture of both,

by hydrolyzing guar gum or galactomannan of the formula (V);



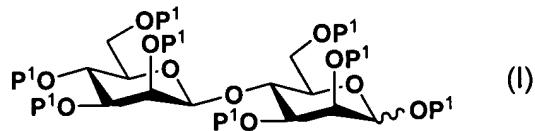
wherein n is an integer of 50 or more, a polysaccharide having mannose $\beta 1,4$ bonds and protecting OH groups of the resulting hydrolysate.

6. (Currently amended) A method for preparing the-an azide disaccharide (a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$) shown with the formula (II) in which the-a 2-azide group of mannose in the-a reducing terminal is linked at the-an equatorial position;



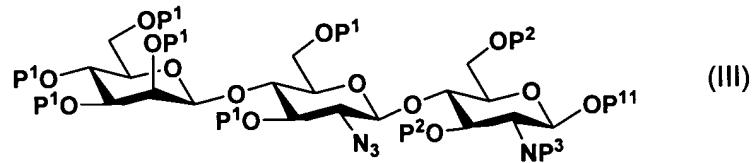
wherein P^1 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and the wavy line means that $-\text{NO}_2$ is linked at an axial or equatorial position, or mixture of both,
comprising a process of preparing a glycal compound, in which mannose of the reducing

terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) shown with the formula (I);



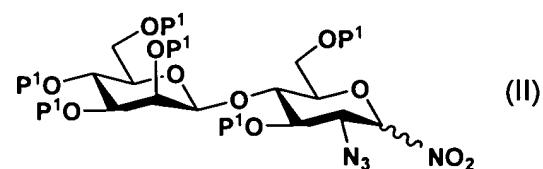
wherein P^1 is the same as described above and the wavy line means that $-\text{OP}^1$ is linked at an axial or equatorial position, or mixture of both, and subsequent azidination reaction of the glycal compound.

7. (Currently amended) A method for preparing the a trisaccharide compound shown with the formula (III);

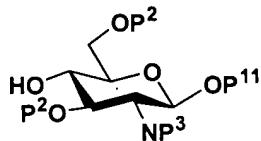


wherein P^1 , P^2 and P^{11} are independently OH- protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and P^3 is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, wherein P^1 , P^2 , P^3 and P^{11} are the same above;

comprising a process of substituting the nitro group of the azide disaccharide compound (a type of $\text{ManP}^1\beta 1 \rightarrow 4\text{ManP}^1$) shown with the formula (II) with a leaving group selected from the group consisting of fluorine atom, chlorine atom, trihaloacetoimide, pentenyl, alkylthio and arylthio;

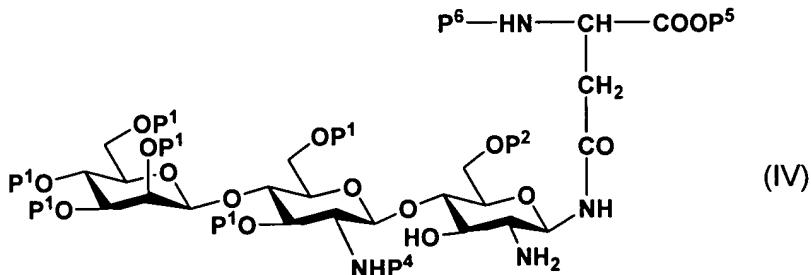


wherein P¹ is the same as described above, the wavy line means that -NO₂ is linked at an axial or equatorial position, or mixture of both, and the a 2-azide group of mannose in the reducing terminal is linked at the equatorial position,
and next, reacting the substituted compound having the leaving group with amino-protected glucopyranoside of the formula;

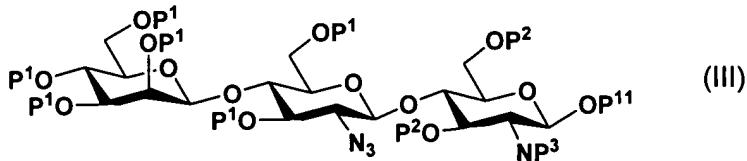


wherein P², P³ and P¹¹ are an OH protecting group the same as described above., P³ is an amino protecting group and P¹¹ is an OH protecting group.

8. (Currently amended) A method for preparing an asparagine-linked trisaccharide compound (Man β 1 \rightarrow 4GlcNP¹ β 1 \rightarrow 4GlcNP²) shown with the formula (IV)

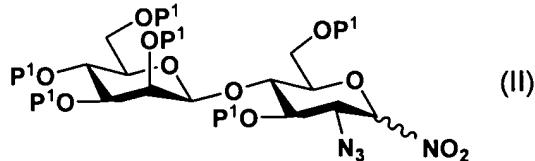


wherein P¹ and P² are independently OH- protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, the same above, P⁴ and P⁶ are independently amino-protecting groups selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P⁵ is a carboxyl-protecting group which is t-Bu, by coupling of the reducing terminal of the trisaccharide deprotecting the P¹¹ group of the compound (III),



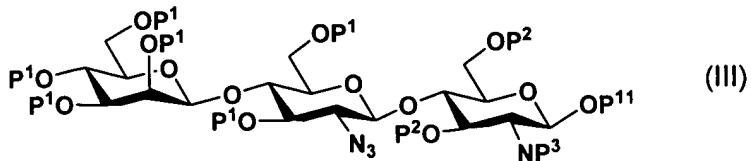
wherein P¹, and P² are the same as described above, P³ is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P¹¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, reducing the azide group to an amino group, protecting the amino group with an acetyl group, forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a reducing terminal, and coupling with a protected asparagine derivative after introducing a -N=C=S group at the reducing terminal, and P¹¹ are the same above, with a protected asparagine derivative.

9. (Currently amended) The A azide disaccharide (a type of ManP¹β1→4ManP¹) compound shown with the formula (II);



wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and the wavy line means that -NO₂ is linked at an axial or equatorial position, or mixture of both.

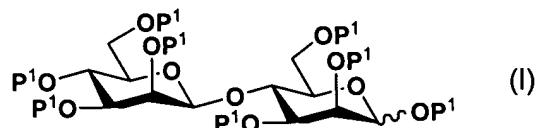
10. (Currently amended) The A trisaccharide compound (a type of Manβ1→4GlcNP¹β1→4GlcNP²) shown with the formula of (III);



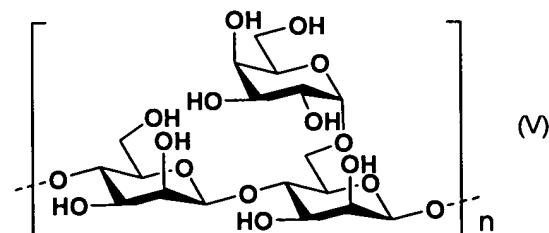
wherein P¹, P² and P¹¹ are independently OH-protecting groups selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and P³ is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl.

11. (New) A method for preparing a trisaccharide (Man β 1 \rightarrow 4GlcN β 1 \rightarrow 4GlcN) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein, comprising

(1) a process of preparing a mannose disaccharide compound (a type of ManP¹ β 1 \rightarrow 4ManP¹) of the formula (I)



wherein P¹ is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsilyl and triethyl silyl, and the wavy line means that -OP¹ is linked at an axial or equatorial position, or mixture of both,
 by hydrolyzing guar gum or galactomannan of the formula (V);

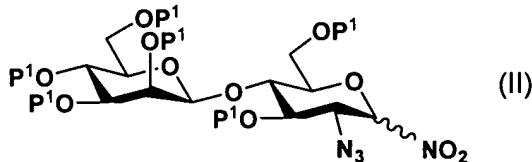


wherein n is an integer of 50 or more,
and protecting OH groups of the resulting hydrolysate.

12. (New) The method for preparing a trisaccharide ($\text{Man}\beta 1\rightarrow 4\text{GlcN}\beta 1\rightarrow 4\text{GlcN}$) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein of claim 11, further comprising each of

(2) a process of preparing a glycal compound, in which mannose of a reducing terminal of the mannose disaccharide is converted to glycal, by halogenation and reduction of the mannose disaccharide (a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$), and

(3) a process of preparing an azide disaccharide compound (a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$) shown with formula (II) in which a 2-azide group of mannose in a reducing terminal is linked at an equatorial position;

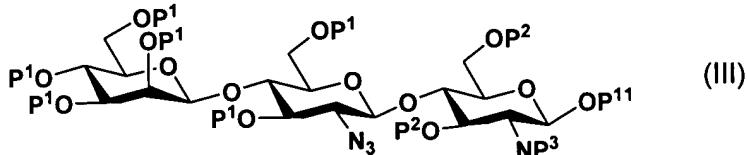


wherein P^1 is the same as described above, the wavy line means that $-\text{NO}_2$ is linked at an axial or equatorial position, or mixture of both,
by azidenitration reaction of the glycal compound above.

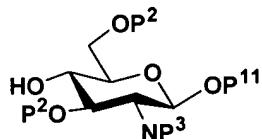
13. (New) The method for preparing a trisaccharide ($\text{Man}\beta 1\rightarrow 4\text{GlcN}\beta 1\rightarrow 4\text{GlcN}$) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein of claim 12, further comprising

(4) a process of substituting the nitro group of the azide disaccharide compound (a type of $\text{ManP}^1\beta 1\rightarrow 4\text{ManP}^1$) with a leaving group selected from the group consisting of fluorine atom, chlorine atom, trihaloacetoimide, pentenyl, alkylthio and arylthio, and

(5) a process of preparing a trisaccharide compound (a type of $\text{Man}\beta 1 \rightarrow 4\text{GlcNP}^1\beta 1 \rightarrow 4\text{GlcNP}^2$) shown with the formula (III);



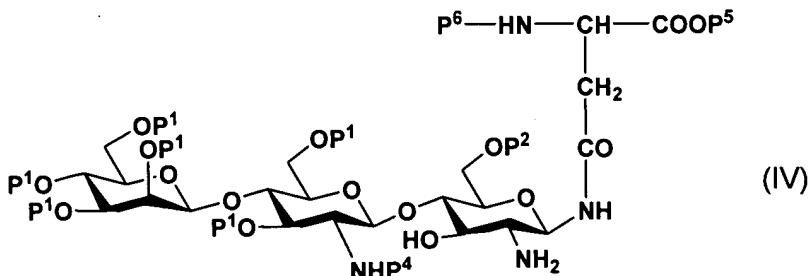
wherein P^1 is an OH- protecting group, as described above, P^2 is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsillyl and triethyl silyl, P^3 is an amino-protecting group selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^{11} is an OH-protecting group selected from the group consisting of acetyl, benzyl, 4-methoxybenzyl, benzoyl, methoxymethyl, tetrahydropyranyl, trimethylsillyl and triethyl silyl, by a reaction of the product having the leaving group with amino-protected glucopyranoside shown with the formula;



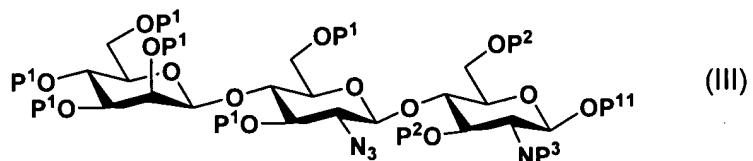
wherein P^2 , P^3 , and P^{11} are the same as described above.

14. (New) The method for preparing a trisaccharide ($\text{Man}\beta 1 \rightarrow 4\text{GlcN}\beta 1 \rightarrow 4\text{GlcN}$) of a reducing terminal in a core sugar chain structure of an asparagine-linked glycoprotein of claim 13, further comprising

(6) a process of preparing an asparagine-linked trisaccharide ($\text{Man}\beta 1 \rightarrow 4\text{GlcNP}^1\beta 1 \rightarrow 4\text{GlcNP}^2$) compound shown with the formula (IV);



wherein P^1 and P^2 are independently OH- protecting groups, as described above, P^4 and P^6 are independently amino-protecting groups selected from the group consisting of phthalimide, tert-butyloxycarbonyl, benzyloxycarbonyl, acetyl, benzoyl and benzyl, and P^5 is a carboxyl-protecting group which is t-Bu,
by deprotecting the P^{11} group of the compound (III),



wherein P^1 , P^2 and P^{11} are independently OH- protecting groups, as described above, and P^3 is an amino-protecting group, as described above,
reducing the azide group to an amino group, protecting the amino group with an acetyl group, forming an oxazoline ring simultaneously with deprotecting a hydroxy group of a reducing terminal, and coupling with a protected asparagine derivative after introducing a $-N=C=S$ group at the reducing terminal.